

## MEKRA Lang Rear View Camera Systems - Finding the Best Fit for Optimum Functionality



- Supports high-precision maneuvering
- Effective monitoring of the rearward area, e.g. when in a convoy or passing other vehicles



Using rear view cameras is a growing trend in the automotive field, from passenger cars and commercial vehicles, to agricultural and construction vehicles, as well as busses and recreational vehicles. Product choices range from basic systems to sophisticated configurations fully suitable for the most demanding automotive requirements. Finding the best fit for your vehicle can prove to be a challenge, as systems differ considerably in terms of quality, durability, and functionality.

**Camera systems on the exterior of commercial vehicles and heavy machinery must be rugged and resistant to dust, dirt, water, and steam. Superior optics and suitable sensors are of critical importance when it comes to image quality.**

## Important considerations

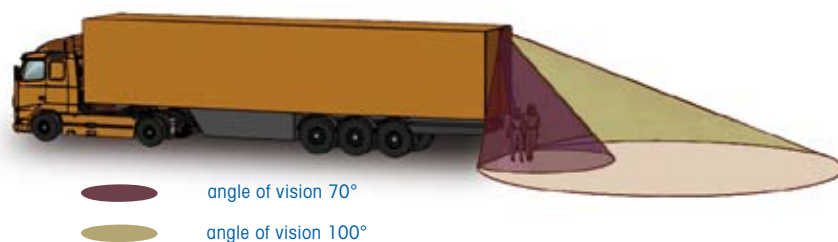
To find the perfect fit, ask yourself the following questions:

- Where do I want to use the camera, which areas do I need to be able to see?
- How many cameras do I want to use, and how are they to be mounted?
- Under which conditions will I use the camera (light, temperature, humidity, mechanical stress)?
- How will the camera be connected to the monitor, are cables going to be exposed to the elements?

The camera as well as its cables and connectors must be permanently water and steam resistant, if they are to be used on vehicle exteriors. These are the requirements of protection class IP69K. High-quality lens systems are of critical importance when it comes to image quality. As a rule, glass lenses do not require protective caps, however, it is advisable to install a heating element for de-icing purposes.

Under actual driving conditions, the following angles of vision have proven to be the most suitable:

Angle of vision	Distance to object	Typical application	Mounting height
70°	> 3m	trucks	> 3m
100°	< 3 m	trucks, agricultural vehicles, construction vehicles	3-2m



## Areas of application



## MEKRA Lang Rear View Camera Systems

The cameras were specifically developed for highly demanding applications, offering outstanding longevity and superior image quality. All MEKRA Lang cameras comply with the requirements of the highest protection class (IP69K), and are guaranteed to remain resistant to dirt, dust, water, and steam for years. The optional heating element is activated automatically under low temperature conditions (about 10°C). Thanks to their compact design and special mounting brackets, the cameras allow for flexible assembly options and easy setup. Patents are pending for the cables and interconnecting systems that also fulfill all the requirements of protection class IP69K. We use high-quality glass lenses which are considerably more translucent than plastic lenses. Camera aperture angles of 70°, 100°, and 130° can be selected. For the 100° and 130° options, it is possible to equip the cameras with low-distortion lens systems.

**MEKRA Lang offers two basic models which can be customized to fulfill our clients' specific application requirements:**

### 561 CCD Camera with Ball Mount



The CCD Camera 561 is the preferred choice when the goal is the most natural image possible, even under poor lighting conditions.

- Special benefits:**
- color fidelity
  - light sensitivity [up to 0.01 lux]
  - compact design

### 563 CMOS Camera with Standard Bracket



The CMOS Camera 563 is particularly well suited for extreme operating temperatures. In addition, it offers excellent smear-suppression and anti-blooming characteristics.

- Special benefits:**
- extended operating temperature range (-40° to 85°)
  - excellent glare resistance
  - fully suitable for automotive applications
  - low-distortion imaging

#### MEKRA Lang GmbH&CoKG

**Corporate Headquarters:**  
D-90765 Fürth  
Schuckerstraße 8-20  
Germany  
Phone: +49 - 911 / 9762 - 0  
Fax: +49 - 911 / 9762 - 120

#### Administration, Development, Production

D-91465 Ergersheim  
Buchheimer Straße 4  
Germany  
Phone: +49 - 9847 / 989 - 0  
Fax: +49 - 9847 / 989 - 200

[www.mekra.de](http://www.mekra.de)



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